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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,216	01/15/2008	Lloyd S. Gray	18467	5782

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EXAMINER	
DAVIS, MINH TAM B	

ART UNIT	PAPER NUMBER
1642	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,216	GRAY ET AL.	
	Examiner	Art Unit	
	MINH-TAM DAVIS	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-15* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1, 3-5, drawn to an antibody to Cav3.1 isoform or its splicing variant thereof, and a method for detecting cancer, using said antibody.

Groups 2-3, claim(s) 1-4, drawn to an antibody to Cav3.2 or Cav3.3 isoform or its splicing variant thereof. An antibody to each isoform constitutes a single distinct invention, and **not a species**.

Groups 4-5, claim 5, drawn to a method for diagnosis of cancer, comprising detecting Cav3.2 or Cav3.3 isoform or its splicing variant thereof. A method detecting each isoform constitutes a single distinct invention, and **not a species**.

Groups 6-8, claims 6-7, 11-12, drawn to a method for treating cancer, or inhibiting calcium entry into cells, using an antibody to Cav3.1, Cav3.2 or Cav3.3 isoform or its splicing variant thereof. A method using an antibody to each isoform constitutes a single distinct invention, and **not a species**.

Group 9, claims 7-12, drawn to method for treating or preventing a cancer, or inhibiting calcium entry into cells, using a T type calcium channel inhibitor, which is a tetrahydronaphthalene derivative or mibefradil.

Groups 10-12, claim 13, drawn to a method for treating autoimmune disease, using an antibody to Cav3.1, Cav3.2 or Cav3.3 isoform or its splicing variant thereof. A method using an antibody to each isoform constitutes a single distinct invention, and **not a species**.

Group 13, claim 13, drawn to method for treating autoimmune disease, using a T type calcium channel inhibitor, which is a tetrahydronaphthalene derivative or mibefradil.

Groups 14-16, claim 14, drawn to a method for preventing graft rejection, using an antibody to Cav3.1, Cav3.2 or Cav3.3 isoform or its splicing variant thereof. A method using an antibody to each isoform constitutes a single distinct invention, and **not a species**.

Group 17, claim 14, drawn to method for preventing graft rejection, using a T type calcium channel inhibitor, which is a tetrahydronaphthalene derivative or mibefradil.

Groups 18-20, claim 15, drawn to a method for preventing apoptosis, using an antibody to Cav3.1, Cav3.2 or Cav3.3 isoform or its splicing variant thereof. A method using an antibody to each isoform constitutes a single distinct invention, and **not a species**.

Group 21, claim 15, drawn to method for preventing apoptosis, using a T type calcium channel inhibitor, which is a tetrahydronaphthalene derivative or mibefradil.

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

For group 9, the species of treating or preventing cancer.

The inventions listed as Groups 1-21 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

A national stage application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept. When claims to different categories are present in the application, the claims will be considered to have unity of invention if the claims are drawn only to one of the following combinations of categories: (1) A product and a process specially adapted for the manufacture of said product; or (2) A product and a process of use of said product; or (3) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or (4) A process and an apparatus or means specifically designed for carrying out the said process; or (5) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process. If multiple products, processes of manufacture or uses are claimed, the first invention of the category first mentioned in the claims of the application will be considered as the main invention in the claims, see PCT article 17(3) (a) and 1.476 (c), 37 C.F.R. 1.475(b) and (d). Group I will be the main invention. After that, all other products and methods will be broken out as separate groups (see 37 CFR 1.475(d).)

Group 1, claims 1, 3-5 forms a single general inventive concept.

Groups 4-21 do not share the same technical feature of group I, because the methods of groups 4-21 do not use the antibody to Cav3.1 isoform of group I.

The antibody to Cav3.2 or Cav.3 isoforms used in the method of diagnosis, treating a cancer, or an autoimmune disease, preventing graft rejection or preventing apoptosis of groups 4-8, 10-12, 14-16, 18-20 do not share the same target antigen having a common structure as that of the antibody to Cav3.1 used in the method of group 1. Similarly, the tetrahydronaphthalene derivative or mibefradil used in the method of treating a cancer, or an autoimmune disease, preventing graft rejection or preventing apoptosis of groups 9, 13, 17, 21 do not share a common structure as that of the antibody to Cav3.1 used in the method of group 1.

Groups 6, 10, 14, 18 are additional use of the antibody to Cav3.1 used in the method of group 1. A method for treating cancer, or an autoimmune disease, preventing graft rejection or preventing apoptosis of groups 6, 10, 14, 18 do not share the same objective as that of a method for diagnosis of cancer of group 1.

Groups 2-3 do not share the same technical feature of group I, because the antibody composition of groups 2-3 binds to the antigen Cav3.2 or Cav3.3 which do not share a common structure with the antigen Cav3.1 of the antibody of group I.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

The method of treating a cancer do not share the same target population as that of the method for preventing a cancer.

Accordingly, Groups 1-21 are not so linked by the same or a corresponding special technical feature as to form a single general inventive concept.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37 CFR 1.143).

If Applicant elects group 9, Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-TAM DAVIS whose telephone number is 571-272-0830. The examiner can normally be reached on 9:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LARRY HELMS can be reached on 571-272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MINH TAM DAVIS
March 6, 2010
/Larry R. Helms/
Supervisory Patent Examiner, Art Unit 1643